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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
BLACKWELL, JAMES H	

ART UNIT	PAPER NUMBER
2176	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/812,906	ERICSON, PETTER	
	Examiner	Art Unit	
	James H Blackwell	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/29/02,4/22/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-19, 22-24, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazzouni et al. (hereinafter Lazzouni, U.S. Patent No. 5,661,506) and in view of Comerford et al. (hereinafter Comerford, U.S. Patent No. 5,243,149).

In regard to independent Claim 1, Lazzouni teaches an encoded paper that can be made as a *form* or as blank paper (Col. 4, lines 54-56). Lazzouni does not specifically teach a specific form layout. However, it would have been obvious to one of ordinary skill in the art at the time of invention to assume that if a form exists, then the form will have a layout. The benefit would have been to allow for the input of information. Lazzouni also teaches that the information recording apparatus comprises a pen having means including a writing tip for making visible markings on the writing surface of the paper. The information recording apparatus also includes image means for providing image signals representative of images of the pixels near the writing tip when the tip is in contact with the surface. The visible markings do not hinder or deteriorate the encoded position information or the imaging process (Col. 2, lines 40-53). Lazzouni fails to specifically teach an *identity pattern*. However, Comerford

teaches a bar code document/file identification system. Bar codes on printed documents can be read by the scanner at the time the document is mounted. User-changeable fields in the bar code or other parts of the document header can be used to differentiate succeeding versions of a given document. By storing a document in a root-plus-changes format, any point in the document development history remains available. Similarly, new versions of a document may be created either by conventional editing of coded information or by NCI editing of the document images (Col. 3, lines 3-14). Compare with Claim 1, ***"A form, comprising: a surface; a position-coding pattern located on the surface and detectable by an optical sensor; a form layout on the surface indicating at least one entry field for receipt of information; an identity pattern on the surface indicating positions on the surface that may be marked to identify the form layout"***. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford providing the benefit of having identified one document from another.

In regard to dependent Claim 2, Lazzouni fails to teach *the identity pattern comprises a bar code*. However, Comerford teaches a bar code document/file identification system. Bar codes on printed documents can be read by the scanner at the time the document is mounted. User-changeable fields in the bar code or other parts of the document header can be used to differentiate succeeding versions of a given document. By storing a document in a root-plus-changes format, any point in the document development history remains available. Similarly, new versions of a document may be created either by conventional editing of coded information or by NCI

editing of the document images (Col. 3, lines 3-14). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford providing the benefit of having identified one document from another.

In regard to dependent Claim 3, Lazzouni fails to teach *the identity pattern comprises a bar code that prevents the optical sensor from detecting the position-coding pattern on portions of the surface covered by bars of the bar code but allows the optical sensor to detect the position-coding pattern between the bars of the bar code.* However, Comerford teaches a bar code document/file identification system. Bar codes on printed documents can be read by the scanner at the time the document is mounted. User-changeable fields in the bar code or other parts of the document header can be used to differentiate succeeding versions of a given document. By storing a document in a root-plus-changes format, any point in the document development history remains available. Similarly, new versions of a document may be created either by conventional editing of coded information or by NCI editing of the document images (Col. 3, lines 3-14). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford providing the benefit of linking a particular set of scanned data with a pre-existing computer file.

In regard to dependent Claim 4, Lazzouni teaches that the position of a pixel is its coordinate in paper Cartesian space. The top left corner of the paper is arbitrarily designated as the origin. The pixel at the origin may be encoded as X=0 and Y=0, or any offset from the origin. All pixels are offsets from the origin. Using 8 bit locations each for X and Y coordinates, 256 pixels can be encoded along each axis. For pixels

with dimensions of 1.8 mm on a side, the maximum paper size is 18.14 inches on a side (Col. 8, lines 13-20). This suggests a scale based on the pixel dimensions. Compare with Claim 4 ***"... the identity pattern also indicates a scale of the form layout"***.

In regard to dependent Claim 5, neither Lazzouni nor Comerford teach *the identity pattern comprises a box for receipt of a cross*. However, it would have been obvious to one of ordinary skill in the art at the time of invention to identify a document by specifically marking or annotating the identification on the document surface providing the benefit of determining one document from another.

In regard to dependent Claims 6-8, neither Lazzouni nor Comerford teach *the entry field comprises a shape to be marked* or *the entry field comprises a scale that can be marked at a location to indicate a numerical rating* or *the entry field comprises space for receiving handwritten information*. However, it would have been obvious to one of ordinary skill in the art at the time of invention to have a HTML-based form containing one or more such elements such as checkboxes, pull-down menus, and text areas providing the benefit of enabling an electronic form to be populated by a keyboard, pen, or other input device.

In regard to independent Claim 9, Lazzouni teaches that the pixels (100) are preferably printed on blank paper using an offset printing process. The pattern of pixels extends over the entire surface of the paper. Each pixel defines a unique coordinate position on the surface of the paper (Col. 8, lines 36-40; compare with Claim 9, ***"... printing on a surface a position-coding pattern detectable by an optical sensor"***). Lazzouni also teaches an encoded paper that can be made as a *form* or as blank paper

(Col. 4, lines 54-56; compare with Claim 9, ***"... printing on the surface a form layout indicating at least one entry field for receipt of information"***). Though Lazzouni does not specifically teach the actual printing of the form layout, it would have been obvious to one of ordinary skill in the art at the time of invention that the act of making the encoded paper as a form implies that it would have had to have been printed in one form or another providing the benefit of a template to fill in information. Lazzouni does not specifically teach *printing on the surface an identity pattern indicating positions on the surface whose arrangement identifies the form layout*. However, Comerford teaches a bar code document/file identification system (Col. 3, lines 3-4). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford providing the benefit of a means to identify one document from another.

In regard to dependent Claim 10, Lazzouni fails to teach *printing the form layout at a known location relative to the position-coding pattern*. However, Comerford teaches that the document is scanned as it is mounted. When the scanner reaches the top of the page, locking the paper to the board, the printed bar code is under the scanner (Col. 3, lines 30-33). The implication is that since the identity barcode is located at the top of the page, that other items on the page, including the form layout, have set positions on the page. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford, providing the benefit of an organized page to input data.

In regard to dependent Claim 11, Lazzouni teaches that the pixels (100) are preferably printed on blank paper using an offset printing process (Col. 8, lines 36-37; compare with Claim 11, ***"... a printer adapted to perform the method of claim 9"***).

In regard to dependent Claim 12, Lazzouni teaches a system that includes a pen, having an instrument for writing on the writing surface, and an imaging system for providing image signals representative of images of the pixels near the pen tip when the tip is in contact with the surface. The system further includes a recording/processing unit coupled to the pen. The recording/processing unit includes a processor responsive to the image signals for determining and electronically recording the positions of the pen tip on the writing surface as the markings are made on the writing surface, so that the recording/processing unit contains an electronic representation of the markings on the writing surface (see Abstract; compare with Claim 12, ***"A computer-readable medium having computer-executable instructions for performing the method of claim 9"***).

In regard to independent Claim 13, Lazzouni teaches an encoded paper that can be made as a *form* or as blank paper (Col. 4, lines 54-56; compare with Claim 13, ***"... on a surface having a position-coding pattern detectable by an optical sensor"***). Lazzouni does not specifically teach *printing on the surface an identity pattern indicating positions on the surface whose arrangement identifies the form layout*. However, Comerford teaches a bar code document/file identification system (Col. 3, lines 3-4). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford, providing the benefit of locating items on the page.

In regard to dependent Claim 14, Lazzouni fails to teach *printing the form layout at a known location relative to the position-coding pattern*. However, Comerford teaches that the document is scanned as it is mounted. When the scanner reaches the top of the page, locking the paper to the board, the printed bar code is under the scanner (Col. 3, lines 30-33). The implication is that since the identity barcode is located at the top of the page, that other items on the page, including the form layout, have set positions on the page. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford, providing the benefit of an organized page to input data.

In regard to dependent Claim 15, Lazzouni teaches a system that includes a pen, having an instrument for writing on the writing surface, and an imaging system for providing image signals representative of images of the pixels near the pen tip when the tip is in contact with the surface. The system further includes a recording/processing unit coupled to the pen. The recording/processing unit includes a processor responsive to the image signals for determining and electronically recording the positions of the pen tip on the writing surface as the markings are made on the writing surface, so that the recording/processing unit contains an electronic representation of the markings on the writing surface (see Abstract; compare with Claim 15, ***"A computer-readable medium having computer-executable instructions for performing the method of claim 13"***).

In regard to independent Claim 16, Lazzouni teaches that the information recording apparatus comprises a pen having means including a writing tip for making visible markings on the writing surface of the paper. The information recording

apparatus also includes image means for providing image signals representative of images of the pixels near the writing tip when the tip is in contact with the surface. The visible markings do not hinder or deteriorate the encoded position information or the imaging process (Col. 2, lines 46-53; compare with Claim 16, ***"... receiving from an optical sensor position data corresponding to movement of a device containing the optical sensor over a surface having a position-coding pattern detectable by the optical sensor"***). Lazzouni fails to explicitly teach *determining from the position data a form layout printed on the surface; and determining from the position data an information entry in an entry field defined by the form layout*. However, Lazzouni does teach that the pixels (100) are preferably printed on blank paper using an offset printing process. The pattern of pixels extends over the entire surface of the paper. Each pixel defines a unique coordinate position on the surface of the paper (Col. 8, lines 36-40). It would have been obvious to one of ordinary skill in the art at the time of invention to use positional information available on the page to locate items on the page such as form inputs, providing the benefit of collecting data.

In regard to dependent Claim 17, Lazzouni does not teach *storing the information entry in a database*. However, Comerford teaches that the work stored in the tool can be uploaded to a workstation. Because the proper forms of data had been stored in each of the interaction modalities, recognition techniques can be applied to the stored information to obtain coded forms of the document, including the voice- and stylus-entered additions. Since the uploaded file contains bar code information, which was read from the pre-annotation page, the uploaded data can be correctly combined with

the pre-existing computer file. Further, the digital representations of non-coded information can be saved or displayed or printed (Col. 3, lines 53-64). Comerford does not specifically teach a *database form*. However, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford, modifying the teaching of Comerford to match the uploaded data with a database form, since the database form is just another type of document. The benefit would have been to enable the storing of uploaded data.

In regard to dependent Claim 18, Lazzouni does not teach *translating the information entry into a non-handwritten format based on a type of information expected to be received in the entry field; and storing the translated information entry in a database*. However, Comerford teaches that the work stored in the tool can be uploaded to a workstation. Because the proper forms of data had been stored in each of the interaction modalities, recognition techniques can be applied to the stored information to obtain coded forms of the document, including the voice- and stylus-entered additions. Since the uploaded file contains bar code information, which was read from the pre-annotation page, the uploaded data can be correctly combined with the pre-existing computer file. Further, the digital representations of non-coded information can be saved or displayed or printed (Col. 3, lines 53-64). Comerford does not specifically teach a *database form*. However, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford, modifying the teaching of Comerford to match the uploaded data with a

database form, since the database form is just another type of document. The benefit would have been to enable the storing of uploaded data.

In regard to dependent Claim 19, Lazzouni does not teach *translating the information entry into a result of a type chosen from the group consisting of: Boolean variable, whole number, real number, and text string; and storing the result in a database*. However, Comerford teaches that on return to an office environment, the recorded data can be dumped to an office system for storage, redisplay, recreation through printing or for reduction to coded form through a combination of recognition software techniques, e.g. optical character recognition for printed or typed text, handwriting recognition for written annotations and speech recognition for speech annotation (Col. 2, lines 59-66). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni and Comerford providing the benefit of recognizing the input data as consisting of text, including text strings.

In regard to dependent Claim 22, Lazzouni teaches a system that includes a pen, having an instrument for writing on the writing surface, and an imaging system for providing image signals representative of images of the pixels near the pen tip when the tip is in contact with the surface. The system further includes a recording/processing unit coupled to the pen. The recording/processing unit includes a processor responsive to the image signals for determining and electronically recording the positions of the pen tip on the writing surface as the markings are made on the writing surface, so that the recording/processing unit contains an electronic representation of the markings on the

writing surface (see Abstract; compare with Claim 22, ***"A computer-readable medium having computer-executable instructions for performing the method of 16"***).

In regard to independent Claim 23, Lazzouni teaches an encoded paper that can be made as a *form* or as blank paper (Col. 4, lines 54-56; compare with Claim 23, ***"... providing a user with a form, the form containing printed indicia on a foreground thereof prompting the user to associate written information with the printed indicia"***). Lazzouni also teaches that the information recording apparatus comprises a pen having means including a writing tip for making visible markings on the writing surface of the paper. The information recording apparatus also includes image means for providing image signals representative of images of the pixels near the writing tip when the tip is in contact with the surface. The visible markings do not hinder or deteriorate the encoded position information or the imaging process Col. 2, lines 40-53; compare with Claim 23, ***"... wherein the form further includes preprinted coded information in the background thereof; encouraging the user to fill in portions of the form using an implement capable of marking the form, the implement being further capable of detecting the preprinted coded information over which the implement passes and generating a signal in response thereto"***). Lazzouni fails to teach *electronically receiving the signal and translating the signal into information reflecting an intention of the user.* However, it would have been obvious to one of ordinary skill in the art at the time of invention to store such data into a database, providing the benefit of maintaining data for subsequent use.

In regard to dependent Claim 24, neither Lazzouni nor Comerford teach *storing in a database the information reflective of the user's intention*. However, it would have been obvious to one of ordinary skill in the art at the time of invention to store such data into a database, providing the benefit of maintaining data for subsequent use.

In regard to dependent Claim 26, Lazzouni teaches that the pen (10) includes a writing instrument (22), such as a fountain pen, and an imaging system (24), such as a video camera. The visible markings (12), which can be handwriting, drawings, or any other markings on a writing surface of encoded paper (14), are traced by a writing tip (18) of writing instrument (22) (Col. 4, lines 65-67; compare with Claim 26, ***"... the written information is hand-written"***).

In regard to dependent Claim 27, Lazzouni teaches that the information recording apparatus comprises a pen having means including a writing tip for making visible markings on the writing surface of the paper. The information recording apparatus also includes image means for providing image signals representative of images of the pixels near the writing tip when the tip is in contact with the surface. The visible markings do not hinder or deteriorate the encoded position information or the imaging process (Col. 2, lines 40-53; compare with Claim 27, ***"... implement is in the form of a pen having an optical code reader therein"***).

Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazzouni over Comerford and in further view of Light et al. (hereinafter Light, U.S. Patent No. 6,192,380).

In regard to dependent Claims 20-21, neither Lazzouni nor Comerford explicitly teach *determining a sub-portion of the position data located in a predetermined area of the position-coding pattern; finding a match to the sub-portion in a plurality of known identity patterns representing possible form layouts, and determining the form layout corresponding to the match* or *determining a sub-portion of the position data whose location falls in an area of the position-coding pattern known to be encompassed by the entry field*. However, Light teaches a method an apparatus for automatic web based form fill-in containing both a form (320) and a tag (350) recognition unit. It also contains a matching unit (360). The form recognition unit (320) recognizes tags such as "input type" that connote forms. The forms recognition unit (320) then passes the entire source of the web page to the tag recognition unit. The tag recognition unit (350) then scans the form and determines what the form is asking for. Alternatively, the tag recognition unit may recognize the label displayed to the user for the specified entry. Once the tag recognition unit has extracted a tag, it passes the tag to the matching unit (360) the matching unit searches in the database for a similar tag (Col. 3, lines 44-62). The teaching of Light implies some sort of form recognition and association of inputs to known layouts of form elements. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni, Comerford, and Light providing the benefit of properly placing the pen-based form input onto the electronic version of the page.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lazzouni over Comerford and in further view of Sekendur (U.S. Patent No. 5,852,434).

In regard to dependent Claim 25, neither Lazzouni nor Comerford teach *the form is printed on a material chosen from the group consisting of paper stock, plastic, and laminate*. However, Sekendur teaches a data surface is made of a material selected from the group consisting of paper, plastic, glass, metal, synthetic fiber, synthetic material, natural material, and a paper like substance (Col. 7, lines 39-42). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Lazzouni, Comerford, and Sekendur, providing the benefit of a viable data surface to determine positional information from.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James H Blackwell whose telephone number is 703-305-0940. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H Feild can be reached on 703-305-9792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James H. Blackwell
07/09/04

SANJIV SHAH
PRIMARY EXAMINER